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MEMORANDUM
—FOR—
CONTRACTORS,
PREPARED BY
THE DIRECTORS
OF THE
CAUGHNAWAGA SHIP CANAL COMP'Y,

HON. JOHN YOUNG, M.P.,
President.

A. S. WOODBURN, PRINTER, ELGIN STREET, OTTAWA.

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*The EDITH and LORNE PIERCE
COLLECTION of CANADIANA*



Queen's University at Kingston

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MEMORANDUM FOR CONTRACTORS.

The subject of connecting Lake Champlain with the St. Lawrence River, near Montreal, at the Village of Caughnawaga, has for some time past, and is now, exciting not only the attention of the people of Canada, but the people of the Western United States, the Eastern States, and especially of the Cities of Boston and New York.

The Trade and Traffic of the Western States, have grown to be so great that other Channels, than what now exist, through the State of New York, must be found to the Atlantic Coast, and it is important to enquire whether or not, there is a way of providing a great and permanent relief at a comparatively trifling cost.

It is proposed in this enquiry to make Tide Water at Troy the easterly, and Buffalo, the westerly points for examination and comparison.

The greatest amount of tonnage ever delivered at Tide Water in one Season, was in 1862, when according to the Auditor's Report, there was delivered 2,917,094 tons; while, in the same year, the the largest direct shipment from Buffalo to Tide Water which ever occurred was 1,980,982 tons.

1st. It is acknowledged from official sources, that it now costs \$4.60 to carry a ton of freight from Buffalo to Tide Water.

2nd. It takes ten days to carry it.

3rd. No more than 1,981,982 tons, can be shipped at Buffalo for Tide Water *via* the Erie Canal. Since 1862, the tonnage shipped at Buffalo, has been largely reduced per annum. In that year the Canal was crowded, freight moved slowly, and large amounts were moved by Railway from the West *via* the "Pennsylvania Central," the "Baltimore and Ohio," and down the Mississippi to New Orleans.

In 1867, the New York Central Railroad, and the Erie Railroad carried through from Lake Erie to Tide Water, about 1,573,613 tons, an amount nearly equal to the Erie Canal capacity from Buffalo. Let it be granted that there is 6,000 tons now due to the easterly end of Lake Erie, and to the Erie Canal, then it is evident that this is about *three times* the tonnage that can be carried by the Erie Canal from Buffalo to Tide Water.

When the Erie Canal shall be in as good condition as possible, the traffic may be increased, but if this increase should amount to 1,000,000 tons more than at present, making 2,981,000, or in round numbers, 3,000,000 tons, even this would be insufficient to accommodate the ever-increasing trade due at the easterly end of Lake Erie.

In this embarrassing state of matters in relation to the trade and traffic of the West, it has for some years been forcibly urged that the true remedy and route to cheapen transport between the West and the East, is through the St. Lawrence River to tide water at Troy.

The Canadian Government will soon have under contract the enlargement of the Welland and St. Lawrence Canals. The capacity of the Welland Canal at present admits vessels of 400 tons, and the St. Lawrence Canals vessels of 750 tons. It is the intention of the Government of Canada so to enlarge the said Canals and improve the navigation of the River to the Port of Montreal, that steam propellers of 1,000 tons burthen may sail from Lake Erie and other interior lakes, through the Welland Canal of twenty-eight miles, through Lake Ontario, and down the St. Lawrence without breaking bulk.

The Canadian Government have granted a charter to a private Company to build a Canal from the St. Lawrence at Caughnawaga (nine miles above Montreal) to connect that river with Lake Champlain. The route of this Canal has been several times surveyed by eminent American Engineers, and its route determined. From the St. Lawrence through the proposed Canal the distance is thirty-two miles, and the lockage to Lake Champlain twenty-five feet. Suppose the present Canal from Whitehall to Troy was also enlarged to the same capacity as the proposed Welland and St. Lawrence Canals, then, what would be the power of the St. Lawrence route in attracting freight destined either for Boston, New York, or towns in Vermont, New Hampshire, Massachusetts, New York, and Maine?

Vessels descending the St. Lawrence do not pass through the St. Lawrence Canals; they go down the Rapids, and only use the Canals on the ascending voyage. The comparison of the routes would stand thus:

	Canal.	River and Lake.	Lockage.
Erie,	362 miles,	465,	554.
St. Lawrence,	125 "	none,	698.

It is estimated by Mills, Jarvis, and McAlpine, eminent Civil Engineers, that the cost of carrying one ton of freight by this route

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will be \$2 65 per mile from Lake Erie to Tide Water, via the St. Lawrence, or a saving of \$1 95 per ton.

The time necessary for the voyage from Lake Erie through the Welland Canal, the St. Lawrence, Caughnawaga, and Champlain Canal to Troy, would be 4 days and 13 hours, against 10 days by the Erie Canal.

From adequate data it is estimated that the surplus tonnage of the Western States, northerly of the Ohio River, which is due to Lake Erie, and would come to Lake Erie, if it could be carried promptly, is 20,000,000 tons.

Give the Erie Canal, the New York Central R. R., and Erie Railway credit for carrying six millions of tons in the aggregate from Lake Erie to Tide Water, an amount which they have never yet carried, it leaves fourteen millions of tons to be distributed upon several Railroads and Rivers running southerly, and to Southern Atlantic Ports. It is of course difficult to estimate what amount of these fourteen millions would be attracted by the St. Lawrence route, to Tide Water at Troy, or what portion of even the six million tons carried by the Erie Canal and two Railways to Tide Water, but when it is considered that the time would be nearly half of that now taken by Erie Canal and that the cost per ton would be two dollars less than by the Erie Canal, it is not exaggerating the matter to say, that three million tons would be attracted through the St. Lawrence, and therefore through the Caughnawaga Canal to New York and the New England States.

Even if the Canal from Whitehall to the Hudson, was not made, the St. Lawrence route would still be the best with the Caughnawaga Canal completed into Lake Champlain, and to Burlington,—thence to Boston and intervening Country, by the various Railways, radiating from the Lake.

No notice has been taken of the upward bound freight, nor of the convenience of shipping goods by steam propeller, either from New York or from Burlington and taking the same forward promptly, without breaking bulk, to any Port on the upper lakes. From the detention which takes place in transport by Railway, in consequence of the crowded traffic, it is evident that such goods and manufactures of the East, could be delivered nearly as soon by the Steamer, and in better order than is possible by Railway.

Then there is the trade of the Ottawa Valley in timber productions, as well as the trade of Western Canada, with the United

States, through Buffalo, Oswego, Ogdensburgh, &c., all of which trade is bound eastward to tide water.

For the trade going from the Ottawa Valley, the only route by water is from Ottawa down the River through the Grenville Canal, thence down the Lachine Canal to Montreal; thence down the St. Lawrence to Sorel, thence up the Richelieu River to Chambley, and thence into Lake Champlain by the Chambley Canal of 12 miles. The saving which will be effected by the construction of the Caughnawaga Canal in distance and lockage, for the business of the Ottawa Valley, over this circuitous route, would be 110 miles in distance, and 94 feet of lockage. This is best illustrated by the following certificate:—

OTTAWA, 13th March, 1873.

We the undersigned, manufacturers of lumber, largely engaged in the shipment of the same to the United States, hereby declare that the rate of freight current last season and this, of lumber from Ottawa to Burlington, on Lake Champlain, is \$3.25 per thousand feet.

The route at present from Ottawa into Lake Champlain is through the Grenville and Lachine Canal, into Lake Champlain.

The proposed Caughnawaga Canal, when constructed from the St. Lawrence into Lake Champlain, will open up a route of thirty-two miles in distance from the St. Lawrence at Caughnawaga, instead of ninety miles of river navigation and twenty-one miles of canal navigation by the route at present followed. By this new route there will be a lockage into Lake Champlain of 25 feet, instead of 120 feet as at present.

The undersigned hereby declare that when said Canal is constructed, the saving which thereby will be effected on the cost of transportation will be equal to *one dollar to one dollar and fifty cents* per thousand feet on the rates now current, or on the rates current for the last four years.

We further declare that the saving in time by this new route in transportation will be *six days*, the present route from Montreal to St. Johns being by far the most difficult navigation on the line.

BRONSONS & WESTON,
PERLEY & PATTEE,
A. BALDWIN,
LEVI YOUNG,
R. BLACKBURN,
E. B. EDDY,
J. R. BOOTH,
H. CRANDALL & Co.

The business of the Ottawa Valley passing into Lake Champlain by the present route last year was: Of lumber, 573,560 tons of the forest, and 70,774 tons of other goods; and the tonnage of vessels passing through was 543,220 tons. These figures, being taken from Government returns, are correct.

Western Canada shipped last year 494,182,000 feet of lumber, and 7,000,000 bushels of grain, all of which went to tide water at Troy; and the tonnage required for this trade from Canada to United States ports, although there are no official returns, may be estimated at 950,000 tons.

The probable immediate revenue from the proposed Caughnawaga Canal may be partially estimated from the actual business now passing on to Lake Champlain from the Province of Quebec. The proposed Caughnawaga Canal is about four miles longer than the Welland Canal; but to apply the same rate of toll as is now levied on the Welland Canal, the result in revenue, *on the present business* from the Province of Quebec into Lake Champlain, would be as follows:

The amount carried by water from the St. Lawrence, and *via* the Chamby Canal into Lake Champlain was in 1872:

Lumber, 573,560 tons, at 30 cts.....	\$103,240 00
Of other goods, 70,774 tons, at 30 cts.....	21,232 00
Vessels passing through, 543,320 tons, at 2½ cts	13,631 00
Lumber transported by Railway from Ottawa and other points in 1872, <i>via</i> Ogdensburg, was feet equal to 154,000 tons, at 30 cts.....	\$ 46,200 00
	—————
	\$184,403 00

The cost of the Canal will be from \$2,500,000 to \$3,000,000, which at 6 per cent. would be..... 188,000 00

Add to this the trade of Western Canada in 1872, of lumber sent to the United States, all of which would pass through the Caughnawaga Canal, say :

494,182 feet of lumber, equal to 823,606 tons, at 30 cts..	\$247,081 00
7,000,000 bush. grain, equal to 212,121 tons, at 30 cts...	63,636 00
950,000 tons shipping, at 2½ cts.....	23,750 00
	—————
	\$334,467 00

Add to this the trade from the Western States of 3,000,000 tons, at 30 cts..... 900,000 00

We have thus an estimate of the business now actually done on the Chambly Canal, which is sufficient, with what is expected by Railway to pay the interest of the work at 6 per cent. If none is attracted from the Western States the trade of one half of the trade of Western Canada added to the trade of Eastern Canada would pay 12 per cent., but as the whole could be attracted, the revenue would be 18 per cent. If only 1,500,000 tons could be attracted from the Western United States, this alone would pay 15 per cent. interest, and added to Canadian trade would pay 33 per cent. interest.

An effort has been made not to exaggerate the revenue of this important work, connecting as it will the St. Lawrence trade with the United States through Lake Champlain. No notice has been taken of uptrade in manufactured or other goods, nor on the transport of passengers, or live stock. The importance of the latter may be estimated by the fact that in 1872 there were shipped from Eastern and Western Canada, to the United States, 11,552 horses, 19,445 cattle, and 334,412 sheep. There can be no doubt that cattle, horses and sheep could by this route be shipped direct from the Western States, in steam propellers adapted for the purpose, at such rates as would make packing at the East, in Boston, New York, &c., profitable business. No mention either has been made of the quantity of square timber which could be transported from the Ottawa through this Canal which cannot now be done to any extent.

The Company have the right under their charter to enlarge the remainder of the Chambly Canal from the point at which it is intersected by the Caughnawaga Canal, a distance of five miles from Chambly, and to enlarge the lock at St. Ours, on the Richelieu River. This is an important concession, for it gives access to the Port of Quebec, and enables vessels or steamers of 1,000 tons to sail from thence to Troy, which is 160 miles nearer Liverpool *via* Quebec than *via* New York.

Lumber from the Saguenay, the St. Maurice, and various rivers on the north shore of the St. Lawrence below Montreal would all be sent through the Canal, together with heavy freights of all kinds, while a new market would be opened up for the coal of Pennsylvania and Ohio.

The Commissioner of Public Works in his Report for the past year, in reference to the trade into Lake Champlain through the present route last season, says:

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"The trade over this route is yearly increasing. During the busy season the capacity of the Canal [the Chamblly] was taxed to its full extent, when large quantities of timber passed through it for the American markets. Since the opening of navigation in May, the American canal boats and barges trading through this canal have largely increased in numbers. They come in with cargoes of coal, sugar, molasses, &c., and take return freights of sawed lumber, which no doubt yields a profitable return."

The Company's Act of Incorporation is in every respect complete and comprehensive in its details. It empowers the Company to survey, to take, appropriate, have and hold, to and for the use of them and their successors, the line and boundaries of a canal between the St. Lawrence and Lake Champlain, to build and erect the same, to select such sites as may be necessary for basins and docks, as may be considered expedient by the Directors and to purchase and dispose of same, with any water power, as may be deemed best by the Directors for the use and profit of the Company.

It also empowers the Company to cause their canal to enter into the Chamblly Canal and to widen, deepen and enlarge the same, not less in size than the present St. Lawrence Canals; also, the Company may take, hold and use any portion of the Chamblly Canal and the works therewith connected and all the tolls, receipts and revenues therefrom upon terms to be settled and agreed upon between the Company and the Governor in Council.

The various surveys that have been made since 1848, are now deposited in the office of the Dominion Board of Works, which, by the Act of Incorporation, are placed at the disposal of the Company.

The Lock of the Canal will be 300 feet long and 45 feet wide. No mention has been made of the transport of Coal, from Pennsylvania and Ohio, nor of the vast deposits of Iron, the product of which depends on cheap transportation, but the opinions herein expressed will be found fully borne out by the following extracts from reports of the most eminent engineers on the continent, and speeches at various times by statesmen of the highest ability.

J. B. MILLS, *Civil Engineer*, 1849.

It is in the power of the Canadian Government, by the construction of the Champlain Canal, to say in what direction the people of the North Western States shall go to market, and in 1869, —"the time has arrived when the trade and traffic referred to must have greater means and facilities for its interchange, or the outward

bound products of the Western States will and must find other channels, than what the *State of New York* affords, to the Atlantic coast.'

HON. W. B. ROBINSON, *Commissioner of Public Works.*

Public Works Report, 1849.

That the early completion of this canal is imperatively called for, to complete the chain of canals already in use, and to render them profitable as well as convenient to the public.

HON. CHANCELLOR WALWORTH, *of New York, 1849, on behalf of the American part of a Convention at Troy, said :—*

One source of revenue from the canal is the transportation of large quantities of coal from Pennsylvania and other States situated on the great Western lakes for the manufacture of iron, and the transportation of such iron for the use of the Western States. It is well known that a very considerable region of country in Northern New York is filled with the richest and most extensive beds of ore in the United States, or perhaps in the world. Many of these beds which have been opened, and are now being worked, are situated upon the very borders of Lake Champlain, or within a short distance from it. The present capabilities of the iron works in the vicinity of these mines, or on the shores of the lake are about 60,000 tons of iron annually, the production of which quantity will require 120,000 tons of coal. The future capabilities of these extensive mines for the production of ore, and the extent to which iron works may be erected in that region where water power is so abundant, are incalculable, and can only be limited by the wants of the country, and this canal, by opening up a direct communication with the Great Western States, and the fertile region of Upper Canada will furnish a new and constantly increasing market for the iron of Northern New York, and will supply return cargoes for the vessels which bring down the coal.

Again, connected as this canal would be with the Ottawa as well as other rivers which flow into the St. Lawrence, either above or below Montreal, the shores of which rivers are now lined with immense forests of the most valuable pine timber, it would bring to Lake Champlain, and through the Champlain canal to the Hudson river, the product of these forests; and will thus cheapen that species of lumber, which, from its scarcity, is now commanding exorbitant prices. This of itself would, for many years, afford a handsome revenue to the canal. A large branch of trade, through the Richelieu River, would be opened up with Newfoundland, Labrador

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and Nova Scotia, for there is no doubt, as Mr. Young has stated, that their fish, oil, gypsum, coal, &c., would be delivered on Lake Champlain and at Troy at a less expense for transportation than the same articles are now delivered at these points via Boston and New York. But when you add to this the trade of Northern Pennsylvania, from Lake Erie, the trade of Ohio, Michigan, Illinois, Wisconsin, Iowa, &c., and the fertile peninsula of Upper Canada, and when it is considered that the lands now cultivated there are only in a small proportion to the wild lands, and that such will be the gradual increase of production there that the Erie and Oswego canals, even when enlarged, will be totally inadequate to such increased commerce, there cannot be a doubt but that the contemplated canal will be constantly adding to the value of its stock in proportion to the increase of the population in the Western and New England States and in the Canadas. By this single improvement, steamers and vessels, from all the upper and western lakes, as well as from the Gulf of the St. Lawrence, can reach Burlington, Whitehall, and all other ports on Lake Champlain without breaking bulk. The flour, pork, beef, coal, and all other products of the West, can, by means of the railroads now in course of construction, be distributed in the interior, and also be landed at Boston at a less expense, with less depreciation in value in transport, and in a shorter period than by any other route. This has been proved by Mr. Young of Montreal, in his tables of comparative freights. To the city of New York the construction of this work is of the greatest possible importance. With the Champlain canal of 66 miles to Troy or 72 miles to Albany, enlarged to the same size as the proposed canal, vessels from any western lake port could, without breaking bulk, discharge at the port of New York, and could there load with emigrants and merchandise for the West. From Lake Erie to New York, by the St. Lawrence, on the downward voyage, there would be 123 miles of canal with 504 feet of lockage, against 363 miles of canal with 698 feet of lockage by the Erie canal. In the one case no transhipment of cargo; in the other, two transhipments.

From these and other facts, it has appeared to the Committee that the canal in question is of too much magnitude not to receive the attention of Northern and Southern New York, and Northern New England as well as of the Canadas; and viewed as a source of income merely, that it cannot fail of richly rewarding those who embark in its construction.

MESSRS. YOUNG AND KILLALY, *Commissioners of Public Works*,
1851.

We beg to point out to Your Excellency that until this work is completed, our canals will fail to compete successfully with the Erie canal and the railroads of New York, in transport from the West to the East, but when this canal is constructed a route will then be opened which will admit of *through transport* without transhipment, between the great commercial emporium and the lakes, and such a route will inevitably take the lead of all existing or possible communications during the season of inland navigation.

THOMAS C. KEEFER, *Civil Engineer*, 1851.

By connecting Lake Champlain with the St. Lawrence, we will not only be able to pour Canada breadstuffs into the heart of best market in America before supplies can come from any other quarter, but also so reduce the cost of transport that our farmers will receive a higher price for all they have to sell.

HON. MR. KILLALY, *Civil Engineer*, 1856.

The absolute necessity for this connecting link in the chain of the immense inland navigation through this Province and the United States, becomes more and more important every succeeding year.

HON. WM. H. MERRITT, W. P. *from a published letter to Hon. Mr. Chibot, Commissioner of Public Works*, 1852.

The construction of this Canal has become a national object. It cannot with safety to the trade, be delayed a single year. Its construction will secure a large revenue for Canada and enable us to further reduce tolls. It was not till 1849, when the Hon. John Young (the projector of the work,) explained it to me, that I became convinced of its necessity; and I respectfully urge it on your attention as Commissioner of Public Works.

JOHN C. JARVIS, *Civil Engineer*, 1855.

This route, from the upper lakes through the St. Lawrence and Lake Champlain, has no equal on the globe. The idea of a vessel of 1,000 tons loading at an inland port and proceeding, without breaking bulk, 2,000 to an ocean port, can no where else be indulged, and I have no hesitation in advising the immediate construction of the proposed canal from the St. Lawrence into Lake Champlain as a work important for the interests of Canada and which cannot fail to yield a large return on the capital invested.

Public Works,

JOHN PAGE, *Chief Engineer, Public Works, 1859.*

The project of constructing a canal to connect Lake Champlain with the St. Lawrence has my entire approval. Western produce, as well as the lumber from Upper Canada and Ottawa would thus find an easier and cheaper conveyance to the markets of the United States and the large upward freight of heavy rods for supplying the populous Western States would be attracted through the St. Lawrence.

HON. MR. J. MCALPINE,
JAMES P. KIRKWOOD,
CAPTAIN JOHN CHILDS,

Civil Engineers, 1858.

From their Report to Harbour Commissioners of Montreal.

The construction of the proposed Caughnawaga canal from the St. Lawrence, opposite Lachine, to Lake Champlain, will allow the large lake vessels to continue their voyage to Whitehall, (two hundred and ten miles from New York, and one hundred and thirty-seven miles nearer the seaboard, than can be done by the way of Oswego), at less cost, even if the Champlain canal should not be enlarged so as to allow the vessels to go to New York. It may not be generally understood that the vessels which would take the Caughnawaga canal would pass by the mouth of the Lachine canal within seven miles of the city of Montreal, and when at Burlington and Whitehall would be nearer to any of the towns of New England than when at Albany.

The economy of time and transport by Lake Champlain could not fail to attract a very large share of the trade between the Western States, New England and Boston, as well as a considerable share of New York trade.

HON. ROBERT J. WALKER, *formerly Secretary of the Treasury, 1863.*

Vermont upon Lake Champlain, by the said enlarged system of canal from the Hudson to Lake Superior, connecting her not only with the Hudson but the St. Lawrence and the lakes, would be greatly advanced in wealth and population. But with cheapened transportation to and from Lake Champlain on the Hudson, and not only Vermont but all New England, in receiving her coal and iron, and her supplies from the West, and in sending them her manufactures, will enjoy great advantages and the business of her railroads be greatly increased. So also, New England in the sound, and in fact, the whole seaboard and all its cities, Bridgeport, New Haven,

New London, Providence, Fall River, New Bedford, Portland, Bangor, Belfast and Eastport, will all transact an immense increased business with New York, Philadelphia, Baltimore, and the West. As the greatest consumer of Western breadstuffs and provisions, and of our iron and coal, and the principal seat of domestic manufactures, the augmented reciprocal trade of New England with the South and West will be enormous. The products of New England in 1860, exclusive of agriculture and the earnings of commerce, were of the value of \$494,074,498, but in a few years after the completion of these enlarged canals, this amount will be doubled. Such is the skilled and educated industry of New England, and such the inventive genius of her people, that there is no limit to her products, except markets and consumers.

MONTREAL, April 1873.

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